

# REGIONALIZATION OF HARMONIC-MEAN STREAMFLOWS IN KENTUCKY

By Gary R. Martin and Kevin J. Ruhl

---

U.S. GEOLOGICAL SURVEY

Water-Resources Investigations Report 92-4173

Prepared in cooperation with the

**KENTUCKY NATURAL RESOURCES AND ENVIRONMENTAL  
PROTECTION CABINET**



Louisville, Kentucky

1993

Table 1.--Harmonic-mean streamflows and drainage-basin characteristics for selected unregulated continuous-record streamflow-gaging stations in the study area

[mo/yr, month/year; mi<sup>2</sup>, square miles; ft<sup>3</sup>/s, cubic feet per second; WV, West Virginia; VA, Virginia, --, not applicable; OH, Ohio; IN, Indiana; TN, Tennessee; IL, Illinois; all stations are in Kentucky unless otherwise noted]

Station number	Station name	Period of unregulated record (mo/yr-mo/yr)	Years of unregulated record	Drainage area (mi <sup>2</sup> )	Streamflow-variability index	Unregulated harmonic-mean flow (ft <sup>3</sup> /s)	Standardized unregulated harmonic-mean flow (ft <sup>3</sup> /s/mi <sup>2</sup> )
03202400	Guyandotte River near Baileysville, WV	07/68-09/89	21.3	306	0.41	<sup>1</sup> 126	0.412
03203000	Guyandotte River at Man, WV	01/29-09/62	33.8	758	.59	131	.173
03203600	Guyandotte River at Logan, WV	10/62-01/80	17.3	833	.48	301	.361
03204500	Mud River near Milton, WV	11/24-12/24 03/38-10/80	42.8	256	.82	4.34	.0170
03206600	East Fork Twelvepole Creek near Dunlow, WV	10/64-09/89	25.0	38.5	.69	1.43	.0371
03207000	Twelvepole Creek at Wayne, WV	07/15-09/17 02/27-09/31 09/46-09/54 10/55-09/66	26.0	291	.81	5.29	.0182
03207020	Twelvepole Creek below Wayne, WV	07/15-09/17 02/27-09/31 09/46-09/54 10/55-02/72	31.3	300	.88	5.81	.0194
03207500	Levisa Fork near Grundy, VA	10/41-09/74 10/85-09/87	35.0	235	.62	22.5	.0957
03207915	Elkfoot Branch near Nigh	10/80-09/84	4.0	.70	--	<sup>1</sup> 1.04	.0571
03207962	Dicks Fork at Phyllis	07/75-09/84	9.3	.82	--	<sup>1</sup> 1.02	.0244
03207965	Grapevine Creek near Phyllis	10/73-09/82 04/89-09/89	9.4	6.20	.70	<sup>1</sup> 1.21	.0339
03208000	Levisa Fork below Fishtrap Dam	04/38-09/68	30.5	392	.70	<sup>1</sup> 37.9	.0967
03208500	Russell Fork at Haysi, VA	10/26-09/89	63.0	286	.61	26.8	.0937
03208950	Cranes Nest River near Clintwood, VA	10/63-09/89	26.0	66.5	.49	16.9	.254
03209000	Pound River below Flannagan Dam near Haysi, VA	10/26-09/38 10/39-02/65	37.2	221	.66	14.0	.0634
03209300	Russell Fork at Elkhorn City	10/60-02/65	4.4	554	.70	<sup>1</sup> 68.7	.124

See footnotes at the end of the table.

Table 1.--Harmonic-mean streamflows and drainage-basin characteristics for selected unregulated continuous-record streamflow-gaging stations in the study area--Continued

[mo/yr, month/year; mi<sup>2</sup>, square miles; ft<sup>3</sup>/s, cubic feet per second; WV, West Virginia; VA, Virginia, --, not applicable; OH, Ohio; IN, Indiana; TN, Tennessee; IL, Illinois; all stations are in Kentucky unless otherwise noted]

Station number	Station name	Period of unregulated record (mo/yr-mo/yr)	Years of unregulated record	Drainage area (mi <sup>2</sup> )	Streamflow-variability index	Unregulated harmonic-mean flow (ft <sup>3</sup> /s)	Standardized unregulated harmonic-mean flow (ft <sup>3</sup> /s/mi <sup>2</sup> )
03209440	Shelby Creek at Dorton	11/71-09/76	4.9	12.6	0.70	<sup>1</sup> 0.30	0.0238
03209500	Levisa Fork at Pikeville	10/37-02/65	27.4	1,232	.70	109	.0885
03209800	Levisa Fork at Prestonsburg	10/63-02/65	1.4	1,702	--	<sup>1</sup> 130	.0764
03210000	Johns Creek near Meta	04/41-09/89	48.5	56.3	.76	3.68	.0654
03211500	Johns Creek near Van Lear	10/39-04/50	10.6	206	.76	<sup>1</sup> 14.3	.0694
03212000	Paint Creek at Staffordsville	04/50-09/75	25.5	103	.77	6.46	.0627
03212500	Levisa Fork at Paintsville	10/15-09/16	22.6	2,144	--	210	.0979
		10/28-04/50					
03213630	Right Fork Hurricane Creek near Stopover	10/80-09/83	3.0	.82	--	<sup>1</sup> 1.06	.0732
03213700	Tug Fork at Williamson, WV	10/67-09/89	22.0	936	.43	355	.379
03215000	Big Sandy River at Louisa	10/38-09/47	10.6	3,897	--	546	.140
		10/48-04/50					
03215500	Blaine Creek at Yatesville	10/15-09/18	40.5	217	.80	10.8	.0498
		04/38-09/75					
03216350	Little Sandy River below Grayson Dam at Leon	10/66-02/68	1.4	196	.70	<sup>1</sup> 14.9	.0760
03216400	Little Sandy River at Leon	10/61-02/68	6.4	255	.75	<sup>1</sup> 22.5	.0882
03216500	Little Sandy River at Grayson	04/38-02/68	29.9	400	.72	33.1	.0828
03216540	East Fork Little Sandy River at Fallsburg	10/72-09/89	17.0	12.2	.80	.28	.0230
03216800	Tygarts Creek at Olive Hill	01/57-09/89	32.8	59.6	.85	<sup>1</sup> 1.66	.0279
03217000	Tygarts Creek near Greenup <sup>2</sup>	10/40-09/89	49.0	242	--	10.5	.0434
03237280	Upper Twin Creek at McGaw, OH	07/63-09/89	26.3	12.2	.97	.32	.0262
03237500	Ohio Brush Creek near West Union, OH	10/26-09/35	58.0	387	.79	8.05	.0208
		10/40-09/89					
03237900	Cabin Creek near Tollesboro	04/72-09/89	17.5	22.4	1.15	.58	.0259
03246500	East Fork Little Miami River at Williamsburg, OH	03/49-09/53	18.6	237	.90	5.55	.0234
		10/60-09/74					

See footnotes at the end of the table.

Table 1.--Harmonic-mean streamflows and drainage-basin characteristics for selected unregulated continuous-record streamflow-gaging stations in the study area--Continued

[mo/yr, month/year; mi<sup>2</sup>, square miles; ft<sup>3</sup>/s, cubic feet per second; WV, West Virginia; VA, Virginia, --, not applicable; OH, Ohio; IN, Indiana; TN, Tennessee; IL, Illinois; all stations are in Kentucky unless otherwise noted]

Station number	Station name	Period of unregulated record (mo/yr-mo/yr)	Years of unregulated record	Drainage area (mi <sup>2</sup> )	Streamflow-variability index	Unregulated harmonic-mean flow (ft <sup>3</sup> /s)	Standardized unregulated harmonic-mean flow (ft <sup>3</sup> /s/mi <sup>2</sup> )
03247500	East Fork Little Miami River near Perrintown, OH	10/15-09/17 04/25-09/77	54.5	476	0.76	18.3	0.0385
03248500	Licking River near Salyersville	10/38-09/89	51.0	140	.80	7.06	.0504
03249000	Licking River at Yale	10/38-09/42	4.0	714	.79	<sup>1</sup> 48.6	.0681
03249500	Licking River at Farmers	04/28-09/31 04/38-11/73	39.2	827	.79	<sup>1</sup> 67.6	.0817
03250000	Triplett Creek at Morehead <sup>2</sup>	10/41-09/80 10/88-09/89	40.0	47.5	--	1.90	.0400
03250100	North Fork Triplett Creek near Morehead	10/67-09/89	22.0	84.7	.85	.99	.0117
03250320	Rock Lick Creek at Sharkey	07/73-11/83	10.3	4.01	1.15	.19	.0474
03250500	Licking River near Blue Lick Spring	04/38-09/59	21.5	1,785	--	111	.0622
03251000	North Fork Licking River near Lewisburg	10/46-09/89	43.0	119	1.25	.97	.0082
03251500	Licking River at McKinneysburg	10/24-03/26 10/38-11/73	36.7	2,326	--	162	.0696
03252000	Stoner Creek at Paris <sup>2</sup>	04/53-09/89	36.5	239	--	9.33	.0390
03252500	South Fork Licking River at Cynthiana <sup>2</sup>	04/38-09/89	51.5	621	--	16.1	.0259
03253000	South Fork Licking River at Hayes	10/28-09/31	3.0	920	1.10	<sup>1</sup> 21.4	.0233
03253500	Licking River at Catawba	10/15-09/17 10/28-11/73	47.2	3,300	--	184	.0558
03254400	North Fork Grassy Creek near Piner	10/67-09/83	16.0	13.6	1.35	.39	.0287
03277400	Leatherwood Creek at Daisy	10/64-09/74	10.0	40.9	.80	6.22	.152
03277450	Carr Fork near Sassafras	10/63-12/75	12.3	60.6	.74	2.43	.0401
03277500	North Fork Kentucky River at Hazard	04/40-12/75	35.8	466	.74	<sup>1</sup> 21.8	.0468
03278000	Bear Branch near Noble	04/55-09/73	18.5	2.21	--	.16	.0724
03278500	Troublesome Creek near Noble	04/50-09/81	31.5	177	.80	8.36	.0472
03279000	Troublesome Creek near Clayhole	10/29-09/31	2.0	187	.80	<sup>1</sup> 8.36	.0447

See footnotes at the end of the table.

Table 1.--Harmonic-mean streamflows and drainage-basin characteristics for selected unregulated continuous-record streamflow-gaging stations in the study area--Continued

[mo/yr, month/year; mi<sup>2</sup>, square miles; ft<sup>3</sup>/s, cubic feet per second; WV, West Virginia; VA, Virginia, --, not applicable; OH, Ohio; IN, Indiana; TN, Tennessee; IL, Illinois; all stations are in Kentucky unless otherwise noted]

Station number	Station name	Period of unregulated record (mo/yr-mo/yr)	Years of unregulated record	Drainage area (mi <sup>2</sup> )	Streamflow-variability index	Unregulated harmonic-mean flow (ft <sup>3</sup> /s)	Standardized unregulated harmonic-mean flow (ft <sup>3</sup> /s/mi <sup>2</sup> )
03280000	North Fork Kentucky River at Jackson	10/28-09/31 04/38-12/75	40.8	1,101	0.78	54.5	0.0495
03280500	North Fork Kentucky River near Airdale	10/29-09/31 04/40-09/42	4.5	1,294	.78	<sup>1</sup> 78.3	.0605
03280600	Middle Fork Kentucky River near Hyden <sup>2</sup>	10/57-09/89	32.0	202	--	11.1	.0550
03280700	Cutshin Creek at Wooton	10/57-09/89	32.0	61.3	.80	4.45	.0726
03280900	Middle Fork Kentucky River at Buckhorn	10/56-11/60	4.1	420	.80	<sup>1</sup> 9.19	.0219
03281000	Middle Fork Kentucky River at Tallega	10/30-03/32 10/39-11/60	22.7	537	.80	13.9	.0259
03281040	Red Bird River near Big Creek	08/72-09/89	17.2	155	.80	13.8	.0890
03281100	Goose Creek at Manchester	10/64-09/89	25.0	163	.78	11.2	.0687
03281500	South Fork Kentucky River at Booneville	04/25-09/31 10/39-09/89	56.5	722	.77	21.9	.0303
03282000	Kentucky River at Lock 14 at Heidelberg	10/25-09/31 10/38-11/60	28.2	2,657	--	212	.0794
03282075	Big Sinking Creek near Crystal	03/87-03/89	2.1	23.4	.78	<sup>1</sup> 3.41	.146
03282100	Furnace Fork near Crystal	03/87-03/89	2.1	9.94	.78	<sup>1</sup> 1.65	.0654
03282500	Red River at Hazel Green	04/54-09/89	35.5	65.8	.85	2.77	.0421
03283000	Stillwater Creek at Stillwater	04/54-09/73	19.5	24.0	.85	.90	.0375
03283370	Cat creek near Stanton	03/87-03/89	2.1	8.30	.85	<sup>1</sup> 1.37	.0446
03283500	Red River at Clay City <sup>2</sup>	10/30-03/32 04/38-09/89	53.0	362	--	51.5	.142
03284000	Kentucky River Lock 10 near Winchester	10/07-11/60	53.2	3,955	--	454	.115
03284300	Silver Creek near Kingston <sup>2</sup>	10/67-09/83	16.0	28.6	--	3.39	.119
03284500	Kentucky River Lock 8 near Camp Nelson	10/39-11/60	21.2	4,414	--	507	.115
03284550	West Hickman Creek at Jonestown <sup>2</sup>	08/74-09/84	10.2	11.0	--	4.13	.376

See footnotes at the end of the table.

Table 1.--Harmonic-mean streamflows and drainage-basin characteristics for selected unregulated continuous-record streamflow-gaging stations in the study area--Continued

[mo/yr, month/year; mi<sup>2</sup>, square miles; ft<sup>3</sup>/s, cubic feet per second; WV, West Virginia; VA, Virginia, --, not applicable; OH, Ohio; IN, Indiana; TN, Tennessee; IL, Illinois; all stations are in Kentucky unless otherwise noted]

Station number	Station name	Period of unregulated record (mo/yr-mo/yr)	Years of unregulated record	Drainage area (mi <sup>2</sup> )	Streamflow-variability index	Unregulated harmonic-mean flow (ft <sup>3</sup> /s)	Standardized unregulated harmonic-mean flow (ft <sup>3</sup> /s/mi <sup>2</sup> )
03285000	Dix River at Danville	10/42-09/89	47.0	318	1.15	3.88	0.0122
03285500	Dix River near Burgin	10/10-03/11 10/11-09/13 04/14-09/22	11.0	395	1.15	16.2	.0410
03288000	North Elkhorn Creek near Georgetown	04/50-09/83 10/88-09/89	34.5	119	.85	5.83	.0490
03288500	Cave Creek near Fort Spring	10/52-09/72	20.0	2.53	--	.20	.0791
03289000	South Elkhorn Creek at Fort Spring	04/50-09/89	39.5	24	.70	2.78	.1158
03289300	South Elkhorn Creek near Midway <sup>2</sup>	09/82-09/89	7.1	105	--	64.0	.6095
03289500	Elkhorn Creek near Frankfort <sup>2</sup>	10/15-09/18 04/40-09/83 10/87-09/89	48.5	473	--	70.5	.149
03290000	Flat Creek near Frankfort	10/51-09/71	20.0	5.63	1.35	.21	.0373
03291000	Eagle Creek at Sadieville	10/41-09/75	34.0	42.9	1.35	<sup>1</sup> 1.17	.0040
03291500	Eagle Creek at Glencoe	10/15-09/18 10/28-09/31 10/38-09/77 12/88-09/89	45.9	437	1.35	3.40	.0078
03292460	Harrods Creek near LaGrange	12/67-09/89	21.8	24.1	1.04	<sup>1</sup> 2.22	.0091
03292500	South Fork Beargrass Creek at Louisville <sup>2</sup>	04/40-09/40 10/44-09/53 10/54-09/62 10/69-09/83 06/88-09/89	32.2	17.2	--	1.99	.116
03293000	Middle Fork Beargrass Creek at Louisville <sup>2</sup>	10/44-09/89	45.0	18.9	--	3.84	.203
03294000	Silver Creek near Sellersburg, IN	10/54-09/89	35.0	189	.78	5.24	.0277

See footnotes at the end of the table.

Table 1.--Harmonic-mean streamflows and drainage-basin characteristics for selected unregulated continuous-record streamflow-gaging stations in the study area--Continued

[mo/yr, month/year; mi<sup>2</sup>, square miles; ft<sup>3</sup>/s, cubic feet per second; WV, West Virginia; VA, Virginia, --, not applicable; OH, Ohio; IN, Indiana; TN, Tennessee; IL, Illinois; all stations are in Kentucky unless otherwise noted]

Station number	Station name	Period of unregulated record (mo/yr-mo/yr)	Years of unregulated record	Drainage area (mi <sup>2</sup> )	Streamflow-variability index	Unregulated harmonic-mean flow (ft <sup>3</sup> /s)	Standardized unregulated harmonic-mean flow (ft <sup>3</sup> /s/mi <sup>2</sup> )
03295000	Salt River near Harrodsburg	10/52-09/73	21.0	41.4	1.15	<sup>1</sup> 0.48	0.0116
03295500	Salt River near Van Buren	10/38-09/82	44.0	196	1.16	5.03	.0257
03295890	Brashears Creek at Taylorsville	06/81-09/89	8.3	259	1.25	<sup>1</sup> 1.85	.0033
03297500	Plum Creek at Waterford	04/54-09/74	20.5	31.8	1.25	.34	.0107
03297845	Floyds Fork at Crestwood	10/79-09/89	10.0	46.7	1.15	<sup>1</sup> 1.12	.0026
03297970	Long Run near Eastwood	06/74-09/77	3.3	15.2	1.25	<sup>1</sup> 1.05	.0033
03298000	Floyds Fork at Fisherville	10/44-09/89	45.0	138	1.25	1.34	.0097
03298500	Salt River at Sheperdsville	10/38-12/82	44.3	1,197	1.21	11.0	.0092
03299000	Rolling Fork near Lebanon	04/38-09/89	51.5	239	.90	2.03	.0085
03300000	Beech Fork near Springfield	10/52-09/72	20.0	85.9	1.34	<sup>1</sup> 1.44	.0051
03300400	Beech Fork at Maud	08/72-08/89	17.1	436	1.34	<sup>1</sup> 1.93	.0044
03301000	Beech Fork at Bardstown	04/40-09/74	34.5	669	1.26	7.26	.0109
03301500	Rolling Fork near Boston	10/38-09/89	51.0	1,299	1.00	42.7	.0329
03301940	Northern Ditch at Okolona <sup>2</sup>	06/74-09/76	2.3	11.8	--	7.66	.649
03302000	Pond Creek near Louisville <sup>2</sup>	10/44-09/89	45.0	64.0	--	9.16	.143
03302220	Buck Creek near New Middletown, IN	10/69-09/89	20.0	65.2	.59	8.91	.137
03302300	Little Indian Creek near Galena, IN	10/68-09/89	21.0	16.1	.80	.74	.0459
03303000	Blue River near White Cloud, IN	04/31-09/89	58.5	476	.56	104	.219
03303400	Crooked Creek near Santa Claus, IN	10/69-09/89	20.0	7.86	.98	.22	.0280
03304500	McGills Creek near McKinney	10/51-09/71	20.0	2.14	--	.14	.0654
03305000	Green River near McKinney	10/51-09/73	22.0	22.4	1.15	.63	.0281
03305500	Green River near Mt Salem	10/53-09/61	8.0	36.3	1.15	<sup>1</sup> 1.93	.0256
03306000	Green River near Campbellsville	10/30-03/32 10/63-01/69	6.8	682	.78	<sup>1</sup> 32.6	.0478
03306500	Green River at Greensburg	10/39-01/69	29.4	736	.78	41.8	.0568
03307000	Russell Creek near Columbia	10/39-09/89	50.0	188	.70	32.6	.173

See footnotes at the end of the table.

Table 1.--Harmonic-mean streamflows and drainage-basin characteristics for selected unregulated continuous-record streamflow-gaging stations in the study area--Continued

[mo/yr, month/year; mi<sup>2</sup>, square miles; ft<sup>3</sup>/s, cubic feet per second; WV, West Virginia; VA, Virginia, --, not applicable; OH, Ohio; IN, Indiana; TN, Tennessee; IL, Illinois; all stations are in Kentucky unless otherwise noted]

Station number	Station name	Period of unregulated record (mo/yr-mo/yr)	Years of unregulated record	Drainage area (mi <sup>2</sup> )	Streamflow-variability index	Unregulated harmonic-mean flow (ft <sup>3</sup> /s)	Standardized unregulated harmonic-mean flow (ft <sup>3</sup> /s/mi <sup>2</sup> )
03307100	Russell Creek near Gresham	10/64-09/75	11.0	265	0.70	<sup>1</sup> 41.8	0.158
03307500	South Fork Little Barren River at Edmonton	10/41-09/72	31.0	18.3	.70	.52	.0284
03308500	Green River at Munfordville	04/15-09/22 10/27-09/31 10/37-01/69	42.9	1,673	--	441	.264
03309000	Green River at Mammoth Cave	10/38-09/50	12.0	1,983	--	<sup>1</sup> 545	.275
03309500	McDougal Creek near Hodgenville	10/53-09/71	18.0	5.34	.65	.71	.133
03310000	North Fork Nolin River at Hodgenville	10/41-09/73	32.0	36.4	.66	2.05	.0563
03310300	Nolin River at White Mills	10/59-09/89	30.0	357	.54	149	.417
03310400	Bacon Creek near Priceville	10/59-09/89	30.0	85.4	.52	21.7	.254
03310500	Nolin River at Wax	10/36-09/62	26.0	600	.54	<sup>1</sup> 273	.455
03311000	Nolin River at Kyrock	10/30-03/32 10/39-09/50 10/60-02/63	14.9	703	.56	<sup>1</sup> 302	.430
03311500	Green River at Lock 6 at Brownsville	10/24-09/31 10/38-02/63	31.4	2,762	--	874	.316
03311600	Beaverdam Creek at Rhoda	10/72-09/89	17.0	10.9	.56	2.39	.219
03312000	Bear Branch near Leitchfield	10/49-09/71	22.0	30.8	.72	1.35	.0438
03312500	Barren River near Pageville	04/39-09/63	24.5	531	.52	194	.365
03313000	Barren River near Finney	10/41-09/50 10/60-02/64	12.4	942	.59	<sup>1</sup> 287	.305
03313500	West Bays Fork at Scottsville	10/50-09/72	22.0	7.47	.65	1.17	.157
03313700	West Fork Drakes Creek near Franklin <sup>2</sup>	10/68-09/89	21.0	110	.55	15.0	.136
03314000	Drakes Creek near Alvaton	10/39-09/71	32.0	478	.59	119	.249
03314500	Barren River at Bowling Green	10/38-02/64	25.4	1,849	--	433	.234
03315000	Barren River at Lock 1 at Greencastle	10/24-09/31	7.0	1,966	--	<sup>1</sup> 568	.289

See footnotes at the end of the table.



Table 1.--Harmonic-mean streamflows and drainage-basin characteristics for selected unregulated continuous-record streamflow-gaging stations in the study area--Continued

[mo/yr, month/year; mi<sup>2</sup>, square miles; ft<sup>3</sup>/s, cubic feet per second; WV, West Virginia; VA, Virginia, --, not applicable; OH, Ohio; IN, Indiana; TN, Tennessee; IL, Illinois; all stations are in Kentucky unless otherwise noted]

Station number	Station name	Period of unregulated record (mo/yr-mo/yr)	Years of unregulated record	Drainage area (mi <sup>2</sup> )	Streamflow-variability index	Unregulated harmonic-mean flow (ft <sup>3</sup> /s)	Standardized unregulated harmonic-mean flow (ft <sup>3</sup> /s/mi <sup>2</sup> )
03315500	Green River at Lock 4 Woodbury	10/37-02/63	25.4	5,404	--	1,570	0.291
03316000	Mud River near Lewisburg	10/39-09/72	33.0	90.5	0.68	5.33	.0589
03316500	Green River at Paradise	10/39-09/50	14.1	6,183	--	1,720	.278
		10/59-11/59					
		04/60-02/63					
03317000	Rough River near Madrid	10/38-09/59	21.0	225	--	49.6	.220
03317500	North Fork Rough River near Westview	04/54-09/73	19.5	42.0	.60	1.30	.0310
03318000	Rough River near Falls of Rough <sup>2</sup>	10/39-09/51	12.0	454	--	66.9	.147
03318200	Rock Lick Creek near Glenn Dean	10/56-09/71	15.0	20.1	.60	.85	.0423
03318500	Rough River at Falls of Rough <sup>2</sup>	10/48-09/59	11.0	504	--	68.4	.136
03318800	Caney Creek near Horse Branch	10/56-09/89	33.0	124	.90	1.03	.0083
03319000	Rough River near Dundee	04/40-09/59	19.5	757	.60	82.4	.109
03320000	Green River at Lock 2 at Calhoun	04/30-09/59	29.5	7,566	--	1,840	.243
03320500	Pond River near Apex	11/40-09/89	48.9	194	1.35	2.10	.0108
03321000	Pond River near White Plains	10/28-09/31	6.0	343	1.35	2.68	.0078
		10/37-09/40					
03321350	South Fork Panther Creek near Whitesville	04/68-09/83	15.5	58.2	1.35	1.21	.0208
03322100	Pigeon Creek at Evansville, IN	10/60-07/85	24.8	323	.74	22.7	.0703
03322360	Beaverdam Creek near Corydon	07/72-09/82	15.4	14.3	1.35	.12	.0084
		10/83-02/87					
		02/88-09/89					
03366200	Herberts Creek near Madison, IN	08/68-09/89	21.2	9.31	.88	.31	.0333
03378550	Big Creek near Wadesville, IN	07/65-09/89	24.3	104	1.08	.60	.0058
03383000	Tradewater River at Olney	10/40-05/84	48.3	255	1.35	2.71	.0106
		03/85-09/89					
03383500	Tradewater River at Dalton	10/28-09/31	6.0	283	1.35	2.22	.0078
		10/37-09/40					

See footnotes at the end of the table.

Table 1.--Harmonic-mean streamflows and drainage-basin characteristics for selected unregulated continuous-record streamflow-gaging stations in the study area--Continued

[mo/yr, month/year; mi<sup>2</sup>, square miles; ft<sup>3</sup>/s, cubic feet per second; WV, West Virginia; VA, Virginia, --, not applicable; OH, Ohio; IN, Indiana; TN, Tennessee; IL, Illinois; all stations are in Kentucky unless otherwise noted]

Station number	Station name	Period of unregulated record (mo/yr-mo/yr)	Years of unregulated record	Drainage area (mi <sup>2</sup> )	Streamflow-variability index	Unregulated harmonic-mean flow (ft <sup>3</sup> /s)	Standardized unregulated harmonic-mean flow (ft <sup>3</sup> /s/mi <sup>2</sup> )
03384000	Rose Creek at Nebo	04/52-09/70	18.5	2.10	--	0.08	0.0381
03400000	Poor Fork at Harlan Letcher County Line	04/40-09/43	3.5	51.7	0.55	<sup>1</sup> 17.5	.339
03400500	Poor Fork at Cumberland	04/40-09/89	49.5	82.3	.55	33.0	.401
03400785	Martins Fork above Smith	05/85-09/89	4.4	23.8	.55	<sup>1</sup> 7.27	.306
03400800	Martins Fork near Smith	04/71-10/78	7.5	55.8	.55	<sup>1</sup> 15.9	.285
03400990	Clover Fork at Harlan	10/77-10/78	1.1	222	.55	<sup>1</sup> 60.3	.272
03401000	Cumberland River near Harlan	04/40-10/78	38.5	374	.55	<sup>1</sup> 96.6	.258
03402000	Yellow Creek near Middlesboro <sup>2</sup>	10/40-09/89	49.0	60.6	--	19.1	.315
03402500	Cumberland River at Pineville	10/29-09/31	2.0	676	.55	<sup>1</sup> 141	.209
03403000	Cumberland River near Pineville <sup>2</sup>	10/38-09/75	47.0	809	--	<sup>1</sup> 175	.216
		10/79-09/89					
03403500	Cumberland River at Barbourville <sup>2</sup>	10/22-09/31	50.5	960	--	<sup>1</sup> 190	.198
		04/48-09/89					
03403910	Clear Fork at Saxton	07/68-09/89	21.3	331	.62	99.0	.299
03404000	Cumberland River at Williamsburg	10/50-09/89	39.0	1,607	.56	<sup>1</sup> 291	.181
03404500	Cumberland River at Cumberland Falls	10/07-09/11	77.6	1,977	--	351	.178
		04/15-09/31					
		10/32-09/89					
03404820	Laurel River at Municipal Dam near Corbin <sup>2</sup>	10/73-09/89	16.0	140	--	9.06	.0647
03404900	Lynn Camp Creek at Corbin	10/73-09/89	16.0	53.8	.69	4.69	.0872
03405000	Laurel River at Corbin <sup>2</sup>	10/22-09/24	33.0	201	--	9.50	.0473
		10/42-09/73					
03406000	Wood Creek near London	10/53-09/71	18.0	3.89	.65	1.09	.280
03406500	Rockcastle at Billows	10/36-09/89	53.0	604	.72	60.2	.0997
03407000	Rockcastle River at Rockcastle Springs	10/22-09/31	9.0	745	.71	<sup>1</sup> 94.2	.126
03407100	Cane Branch near Parkers Lake	02/56-09/66	12.1	.67	--	.13	.194
		05/73-09/74					

See footnotes at the end of the table.

Table 1.--Harmonic-mean streamflows and drainage-basin characteristics for selected unregulated continuous-record streamflow-gaging stations in the study area--Continued

[mo/yr, month/year; mi<sup>2</sup>, square miles; ft<sup>3</sup>/s, cubic feet per second; WV, West Virginia; VA, Virginia, --, not applicable; OH, Ohio; IN, Indiana; TN, Tennessee; IL, Illinois; all stations are in Kentucky unless otherwise noted]

Station number	Station name	Period of unregulated record (mo/yr-mo/yr)	Years of unregulated record	Drainage area (mi <sup>2</sup> )	Streamflow-variability index	Unregulated harmonic-mean flow (ft <sup>3</sup> /s)	Standardized unregulated harmonic-mean flow (ft <sup>3</sup> /s/mi <sup>2</sup> )
03407300	Helton Branch near Greenwood	01/56-09/74	18.8	0.85	--	0.32	0.376
03407500	Buck Creek near Shopville	10/52-09/89	37.0	165	0.82	1.72	.0104
03408500	New River at New River, TN	09/34-09/89	55.1	382	.81	17.9	.0469
03410500	South Fork Cumberland River near Sterns	10/42-09/89	47.0	954	.65	225	.236
03411000	South Fork Cumberland River near Nevelsville	04/15-09/31 10/32-09/50	34.5	1,271	.64	<sup>1</sup> 276	.217
03411500	Cumberland River at Burnside	10/14-09/50	36.0	4,865	--	<sup>1</sup> 963	.198
03412500	Pitman Creek at Somerset	10/53-09/72	19.0	31.3	.70	1.79	.0572
03413000	Cumberland River near Jamestown	10/38-09/40	2.0	5,331	--	<sup>1</sup> 1,090	.205
03413200	Beaver Creek near Monticello	10/68-09/83	15.0	43.4	.60	8.06	.186
03414000	Cumberland River near Rowena	10/39-07/50	10.8	5,790	--	<sup>1</sup> 1,140	.197
03414500	East Fork Obey River near Jamestown, TN	10/42-09/89	47.0	202	.65	42.9	.212
03415000	West Fork Obey River near Alpine, TN	10/42-09/71 10/79-11/81	31.2	115	.63	<sup>1</sup> 18.2	.158
03416000	Wolf River near Byrdstown, TN	10/42-09/89	47.0	106	.55	31.6	.298
03418000	Roaring River near Hilham, TN	10/31-08/75	43.9	78.7	.52	21.5	.273
03435140	Whippoorwill Creek near Claymour	05/73-09/89	16.4	20.8	1.05	.41	.0197
03435500	Red River near Adams, TN	07/20-10/69	49.3	706	.52	201	.285
03436000	Sulfer Fork Red River near Adams, TN	01/39-09/89	50.8	186	.54	41.6	.224
03436700	Yellow Creek near Shiloh, TN	10/57-11/80	23.2	124	.40	64.7	.522
03437500	South Fork Little River at Hopkinsville	10/49-09/73	24.0	46.5	.72	3.69	.0794
03438000	Little River near Cadiz	04/40-09/89	49.5	244	.58	67.0	.275
03438070	Muddy Fork Little River near Cerulean	05/68-09/83	15.4	30.5	1.35	.32	.0105
03529500	Powell River at Big Stone Gap, VA	10/44-09/59 10/78-09/81	18.0	112	.50	<sup>1</sup> 50.9	.455
03530500	North Fork Powell River at Pennington, VA	10/44-09/51 10/78-09/81	10.0	70.0	.58	<sup>1</sup> 18.1	.259

See footnotes at the end of the table.

Table 1.--Harmonic-mean streamflows and drainage-basin characteristics for selected unregulated continuous-record streamflow-gaging stations in the study area--Continued

[mo/yr, month/year; mi<sup>2</sup>, square miles; ft<sup>3</sup>/s, cubic feet per second; WV, West Virginia; VA, Virginia, --, not applicable; OH, Ohio; IN, Indiana; TN, Tennessee; IL, Illinois; all stations are in Kentucky unless otherwise noted]

Station number	Station name	Period of unregulated record (mo/yr-mo/yr)	Years of unregulated record	Drainage area (mi <sup>2</sup> )	Streamflow-variability index	Unregulated harmonic-mean flow (ft <sup>3</sup> /s)	Standardized unregulated harmonic-mean flow (ft <sup>3</sup> /s/mi <sup>2</sup> )
03531000	Powell River near Pennington Gap, VA	10/20-09/31	11.0	290	0.51	111	0.383
03531500	Powell River near Jonesville, VA	10/31-09/89	58.0	319	.48	132	.414
03609500	Tennessee River near Paducah	10/1889-09/35	46.0	40,200	--	31,100	.774
03610000	Clarks River at Murray	10/51-09/71	20.0	89.7	1.25	1.48	.0165
03610200	Clarks River at Almo	10/82-09/89	7.0	134	--	12.1	.0903
03610500	Clarks River near Benton	10/38-09/73	35.0	227	.91	16.2	.0714
03610545	West Fork Clarks River near Brewers	10/68-09/83 12/88-09/89	15.8	68.7	.50	13.6	.198
03611260	Massac Creek near Paducah	10/71-09/89	18.0	14.6	.70	.97	.0664
03612000	Cache River at Forman, IL	04/23-09/89	66.0	244	.97	3.33	.0137
07022500	Perry Creek near Mayfield	10/52-09/65 10/67-09/72	18.0	1.72	--	.04	.0233
07023000	Mayfield Creek at Lovelaceville	10/38-09/72	34.0	212	.84	26.7	.126
07023500	Obion Creek at Pryorsburg	10/51-09/73	22.0	36.8	1.25	.16	.0044
07024000	Bayon De Chien near Clinton	10/39-09/78 09/84-09/89	44.1	68.7	.50	20.2	.294
07026500	Reelfoot Creek near Samburg, TN	01/51-10/73	22.7	110	.99	1.27	.0115

<sup>1</sup> Value adjusted based on correlation of concurrent record with a nearby gaging station.

<sup>2</sup> Flows at this site are subject to local diversion.

Table 2.--Harmonic-mean streamflows and drainage-basin characteristics for selected regulated continuous-record streamflow-gaging stations in the study area

[mi<sup>2</sup>, square miles; mo/yr, month/year; ft<sup>3</sup>/s, cubic feet per second; --, not applicable; all stations are in Kentucky unless otherwise noted]

Station number	Station name	Drainage area (mi <sup>2</sup> )	Period of unregulated record (mo/yr-mo/yr)	Unregulated harmonic-mean flow (ft <sup>3</sup> /s)	Period of regulated record analyzed (mo/yr-mo/yr)	Regulated harmonic-mean flow (ft <sup>3</sup> /s)	Source of regulation and start date
03208000	Levisa Fork below Fishtrap Dam	392	04/38-09/68	<sup>1</sup> 37.9	08/69-09/89	138	Fishtrap Lake, 10/68
03209300	Russell Fork at Elkhorn City	554	10/60-02/65	<sup>1</sup> 68.7	04/69-09/89	258	Flannagan Lake, 03/65; North Fork Pound Lake, 07/66
03209500	Levisa Fork at Pikeville	1,232	10/37-02/65	109	05/66-09/89	507	Flannagan Lake, 03/65; Fishtrap Lake, 10/68
03209800	Levisa Fork at Prestonsburg	1,702	10/63-02/65	<sup>1</sup> 130	05/66-09/81	632	Flannagan Lake, 03/65; Fishtrap Lake, 10/68
03211500	Johns Creek near Van Lear	206	10/39-04/50	<sup>1</sup> 14.3	07/50-09/89	30.9	Dewey Lake, 05/50
03212500	Levisa Fork at Paintsville	2,144	10/15-09/16 10/28-04/50	210	07/50-09/89	439	Dewey Lake, 05/50; Fishtrap Lake, 10/68
03215000	Big Sandy River at Louisa	3,897	10/38-09/47 10/48-04/50	546	07/50-09/76	841	Dewey Lake, 05/50; Fishtrap Lake, 10/68
03216000	Ohio River at Ashland	60,750	--	--	10/39-09/52	<sup>2</sup> 30,100	Various
03216350	Little Sandy River below Grayson Dam near Leon	196	10/66-02/68	<sup>1</sup> 14.9	05/69-09/89	57.0	Grayson Lake, 03/68
03216400	Little Sandy River at Leon	255	10/61-02/68	<sup>1</sup> 22.5	05/69-09/80	84.1	Grayson Lake, 03/68
03216500	Little Sandy River at Grayson	400	04/38-02/68	33.1	05/69-09/89	110	Grayson Lake, 03/68
03216600	Ohio River at Greenup Dam	62,000	--	--	10/68-09/89	<sup>2</sup> 30,600	Various
03238000	Ohio River at Maysville	70,130	--	--	10/40-05/64	<sup>2</sup> 33,300	Various
03249500	Licking River at Farmers	827	04/28-09/31 04/38-11/73	<sup>1</sup> 67.6	06/74-09/89	165	Cave Run Lake, 12/73
03251500	Licking River at McKinneysburg	2,326	10/24-03/26 10/38-11/73	162	06/74-09/89	463	Cave Run Lake, 12/73
03253500	Licking River at Catawba	3,300	10/15-09/17 10/28-11/73	184	06/74-09/89	579	Cave Run Lake, 12/73
03255000	Ohio River at Cincinnati, Ohio	76,580	--	--	10/39-06/63	<sup>2</sup> 34,900	Various
03277200	Ohio River at Markland Dam	83,170	--	--	05/70-09/89	<sup>2</sup> 37,900	Various
03277450	Carr Fork near Sassafras	60.6	10/63-12/75	2.43	08/76-09/89	12.0	Carr Fork Lake, 01/76

See footnotes at the end of the table.

Table 2.--Harmonic-mean streamflows and drainage-basin characteristics for selected regulated continuous-record streamflow-gaging stations in the study area--Continued

[mi<sup>2</sup>, square miles; mo/yr, month/year; ft<sup>3</sup>/s, cubic feet per second; --, not applicable; all stations are in Kentucky unless otherwise noted]

Station number	Station name	Drainage area (mi <sup>2</sup> )	Period of unregulated record (mo/yr-mo/yr)	Unregulated harmonic-mean flow (ft <sup>3</sup> /s)	Period of regulated record analyzed (mo/yr-mo/yr)	Regulated harmonic-mean flow (ft <sup>3</sup> /s)	Source of regulation and start date
03277500	North Fork Kentucky River at Hazard	466	04/40-12/75	<sup>1</sup> 21.8	08/76-09/89	112	Carr Fork Lake, 01/76
03280000	North Fork Kentucky River at Jackson	1,101	10/28-09/31	54.5	08/76-09/89	279	Carr Fork Lake, 01/76
03280900	Middle Fork Kentucky River at Buckhorn	420	04/38-12/75 10/56-11/60	<sup>1</sup> 9.19	01/62-09/75	76.0	Buckhorn Lake, 12/60
03281000	Middle Fork Kentucky River at Tallega	537	10/30-03/32 10/39-11/60	13.9	01/62-09/89	159	Buckhorn Lake, 12/60
45 03282000	Kentucky River at Lock 14 at Heidelberg	2,657	10/25-09/31 10/39-11/60	211	01/62-09/89	687	Buckhorn Lake, 12/60; Carr Fork Lake, 01/76
03284000	Kentucky River at Lock 10 at Winchester	3,955	10/07-11/60	454	01/62-09/89	907	Buckhorn Lake, 12/60; Carr Fork Lake, 01/76
03284500	Kentucky River at Lock 8 near Camp Nelson	4,414	10/39-11/60	507	01/62-09/71	961	Buckhorn Lake, 12/60
03287000	Kentucky River at Lock 6 near Salvisa	5,102	--	--	07/26/09/89	971	Herrington Lake, 11/25; Buckhorn Lake, 12/60; Carr Fork Lake, 01/76
03287500	Kentucky River at Lock 4 at Frankfort	5,411	--	--	07/26-09/89	1,130	Herrington Lake, 11/25; Buckhorn Lake, 12/60; Carr Fork Lake, 01/76
03290500	Kentucky River at Lock 2 at Lockport	6,180	--	--	07/26-09/89	1,470	Herrington Lake, 11/25; Buckhorn Lake, 12/60; Carr Fork Lake, 01/76
03294500	Ohio River at Louisville	91,170	--	--	04/28-09/89	39,700	Various
03298500	Salt River at Sheperdsville	1,197	10/38-12/82	11.0	05/83-09/89	112	Taylorville Lake, 01/83
03303280	Ohio River at Cannelton Dam	97,000	--	--	10/75-09/89	<sup>2</sup> 42,000	Various
03303500	Ohio River at Owensboro	97,200	--	--	10/40-09/52	<sup>2</sup> 43,000	Various
03306000	Green River near Campbellsville	682	10/30-03/32 10/63-01/69	<sup>1</sup> 32.6	05/69-09/89	66.2	Green River Lake, 02/69

See footnotes at the end of the table.

Table 2.--Harmonic-mean streamflows and drainage-basin characteristics for selected regulated continuous-record streamflow-gaging stations in the study area--Continued

[mi<sup>2</sup>, square miles; mo/yr, month/year; ft<sup>3</sup>/s, cubic feet per second; --, not applicable; all stations are in Kentucky unless otherwise noted]

Station number	Station name	Drainage area (mi <sup>2</sup> )	Period of unregulated record (mo/yr-mo/yr)	Unregulated harmonic-mean flow (ft <sup>3</sup> /s)	Period of regulated record analyzed (mo/yr-mo/yr)	Regulated harmonic-mean flow (ft <sup>3</sup> /s)	Source of regulation and start date
03306500	Green River at Greensburg	736	10/39-01/69	41.8	05/69-09/75	<sup>3</sup> --	Green River Lake, 02/69
03308500	Green River at Munfordville	1,673	04/15-09/22 10/27-09/31 10/37-01/69	44.0	05/69-09/89	811	Green River Lake, 02/69
03311000	Nolin River at Kyrock	703	10/30-03/32 10/39-09/50 10/60-02/63	<sup>1</sup> 302	06/63-09/89	92.3	Nolin Lake, 03/63
03311500	Green River at Lock 6 at Brownsville	2,762	10/24-09/31 10/38-02/63	874	06/63-09/89	1,430	Nolin Lake, 03/63; Green River Lake, 02/69
03313000	Barren River near Finney	942	10/41-09/50 10/60-02/64	<sup>1</sup> 287	06/64-09/89	155	Barren River Lake, 03/64
03314500	Barren River at Bowling Green	1,849	10/38-02/64	433	06/64-09/89	733	Barren River Lake, 03/64
03315500	Green River at Lock 4 Woodbury	5,404	10/37-02/63	1,570	06/63-09/89	2,860	Nolin Lake, 03/63; Barren River Lake, 03/64; Green River Lake, 02/69
03316500	Green River at Paradise	6,183	10/39-09/50 10/59-11/59 04/60-02/63	1,720	06/63-12/81	3,140	Nolin Lake, 03/63; Barren River Lake, 03/64; Green River Lake, 02/69
03318500	Rough River at Falls of Rough	504	10/48-09/59	68.4	01/61-09/89	159	Rough River Lake, 10/59
03319000	Rough River near Dundee	757	04/40-09/59	82.4	01/61-09/89	231	Rough River Lake, 10/59
03320000	Green River at Lock 2 at Calhoun	7,566	04/30-09/59	1,840	01/61-09/89	3,570	Rough River Lake, 10/59; Nolin Lake, 03/63; Barren River Lake, 03/64; Green River Lake, 02/69
03322420	Ohio River near Uniontown	108,000	--	--	10/84-09/89	<sup>2</sup> 49,000	Various
03384500	Ohio River at Dam 51, at Golconda, Illinois	143,900	--	--	10/40-09/52	<sup>4</sup> 72,800	Various
03400800	Martins Fork near Smith	55.8	04/71-10/78	<sup>1</sup> 15.9	01/79-09/89	25.9	Martins Fork Lake, 11/78

See footnotes at the end of the table.

Table 2.--Harmonic-mean streamflows and drainage-basin characteristics for selected regulated continuous-record streamflow-gaging stations in the study area--Continued

[mi<sup>2</sup>, square miles; mo/yr, month/year; ft<sup>3</sup>/s, cubic feet per second; --, not applicable;  
all stations are in Kentucky unless otherwise noted]

Station number	Station name	Drainage area (mi <sup>2</sup> )	Period of unregulated record (mo/yr-mo/yr)	Unregulated harmonic-mean flow (ft <sup>3</sup> /s)	Period of regulated record analyzed (mo/yr-mo/yr)	Regulated harmonic-mean flow (ft <sup>3</sup> /s)	Source of regulation and start date
03400990	Clover Fork at Harlan	222	10/77-10/78	<sup>1</sup> 60.3	01/79-09/89	109	Martins Fork Lake, 11/78
03401000	Cumberland River near Harlan	374	04/40-10/78	<sup>1</sup> 96.6	01/79-09/89	168	Martins Fork Lake, 11/78
03414000	Cumberland River near Rowena	5,790	10/39-07/50	<sup>1</sup> 1,140	03/51-09/89	<sup>5</sup> 1,300	Cumberland Lake, 08/50
03438220	Cumberland River at Grand Rivers	17,600	--	--	06/66-09/89	<sup>6</sup> 17,800	Lake Barkley, 08/44
03609500	Tennessee River near Paducah	40,200	10/1889-09/35	31,100	06/66-09/84	<sup>6</sup> 43,800	Kentucky Lake, 01/36
03611500	Ohio River at Metropolis, Illinois	203,000	--	--	04/28-09/89	135,000	Various

<sup>1</sup> Value adjusted based on correlation of concurrent record with a nearby gaging station.

<sup>2</sup> Value adjusted based on correlation of concurrent record with Ohio River at Louisville (03294500).

<sup>3</sup> Less than 10 years of continuous record.

<sup>4</sup> Value adjusted based on correlation of concurrent record with Ohio River at Metropolis, IL (03611500).

<sup>5</sup> Value is for the entire regulated period. A change in the release schedule was implemented in July 1984, but no separate analysis was performed (less than 10 years of continuous record).

<sup>6</sup> Value represents only that period after the Kentucky Lake-Lake Barkley Canal was opened.